

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Kazutoshi YASUNAGA et al.                      Group Art Unit: 2626  
Appln. No. : 09/849,398    Examiner: M.N. Opsasnick  
Filed : May 7, 2001    Confirmation No.: 1049  
For : EXCITATION VECTOR GENERATOR, SPEECH CODER AND SPEECH  
DECODER

**RESPONSE UNDER 37 C.F.R. §1.111 AND  
RECORD OF EXCHANGED TELEPHONE VOICEMAILS**

Commissioner for Patents  
U.S. Patent and Trademark Office  
Customer Service Window, Mail Stop Amendment  
Randolph Building  
401 Dulany Street  
Alexandria VA 22314

Sir:

In response to the Office Action of the U.S. Patent and Trademark Office dated March 8, 2007, in which a three month shortened statutory period for responding was set to expire on June 8, 2007, reconsideration and withdrawal of the outstanding rejection is respectfully requested in view of the herein contained amendments and remarks.

**Amendments to the Claims** begin on page 2 of this Response  
**Remarks** begin on page 4 of this Response.

IN THE CLAIMS

Upon entry of the present amendment, the status of the claims will be as is shown herein. This listing of claims replaces all previous versions and listings of claims in the present application.

Claims 1-20. (Canceled)

21. (Currently Amended) A CELP speech encoder/decoder comprising a modified excitation vector generator coupled to an algebraic codebook and a synthesis filter, said modified excitation vector generator comprising:

a vector provider configured to provide an input excitation vector from said algebraic codebook;

a waveform provider configured to provide a fixed waveform from a memory; and

a convolutor configured to convolute said fixed waveform with said input excitation vector to generate a modified excitation vector,

wherein said modified excitation vector is provided as an input to the synthesis filter, and

wherein the synthesis filter is configured to output synthesized speech in accordance with the modified excitation vector.

22. (Previously Presented) The CELP speech encoder/decoder of claim 21, wherein said convolutor spreads an energy distribution of said input excitation vector based upon said fixed waveform over a subframe.

23. (Previously Presented) The CELP speech encoder/decoder of claim 22, wherein said convolutor performs a linear convolution.

24. (Previously Presented) The CELP speech encoder/decoder of claim 21, wherein said input excitation vector comprises a vector having a plurality of non-zero samples.

25. (Previously Presented) The CELP speech encoder/decoder of claim 22, wherein said waveform provider provides a plurality of fixed waveforms.

26. (Previously Presented) The CELP speech encoder/decoder of claim 25, wherein said convolutor uses one of said plurality of fixed waveforms for each subframe.

27. (Previously Presented) The CELP speech encoder/decoder of claim 21, wherein said convolutor modifies an energy distribution of said input vector.

28. (Currently Amended) A CELP speech encoder/decoder employing a method of providing an input excitation vector used in the CELP speech encoder/decoder having an algebraic codebook and a synthesis filter, said method of providing an input excitation vector comprising:

providing an input excitation vector from said algebraic codebook;

providing a fixed waveform from a memory; and

convoluting said fixed waveform with said input excitation vector to generate a modified excitation vector,

wherein said modified excitation vector is provided as an input to the synthesis filter, and

wherein the synthesis filter is configured to output synthesized speech in accordance with the modified excitation vector.

29. (Currently Amended) ~~The method~~ CELP speech encoder/decoder of claim 28, wherein said input vector comprises a vector having a plurality of non-zero samples.

30. (Currently Amended) ~~The method~~ CELP speech encoder/decoder of claim 28, wherein convoluting comprises modifying an energy distribution of the input excitation vector.

REMARKS

Initially, Applicants would like to thank the Examiner for indicating the allowability of claims 21-30 over any and all prior art of record. Applicants would also like to thank the Examiner for his courtesy in communicating with Applicants' representative, Joshua M. Povsner, via voicemail exchange in order to discuss the rejection under 35 U.S.C. §101 set forth in the above noted Office Action.

In the outstanding Office Action, claims 21-30 were rejected under 35 U.S.C. §101. In this regard, the outstanding Office Action asserts that claims 21-30 define non-statutory processes that merely manipulate an abstract idea without a claimed limitation to a practical application. In the above-noted voicemail exchange, the Examiner suggested that the pending claims would be considered allowable under 35 U.S.C. §101 if amended to specify a feature similar to: "wherein the synthesis filter is configured to output synthesized speech in accordance with the modified excitation vector".

Upon entry of the present amendment, claims 21 and 28 will have been amended to recite "wherein the synthesis filter is configured to output synthesized speech in accordance with the modified excitation vector" in accordance with the Examiner's suggestion. Claims 29 and 30 will also have been amended to clarify that each of these claims is directed to a CELP speech encoder/decoder in accordance with claim 28 from which each of claims 29 and 30 depends.

The herein-contained amendments should not be considered an indication of Applicants' acquiescence as to the propriety of the outstanding rejections. Rather, the herein-contained amendments are made in order to advance prosecution and obtain early allowance of claims.

That is, the previous independent claims 21 and 28 were allowable under 35 U.S.C. §101 even without the above-noted amendments. In this regard, neither of previous claims 21 and 28

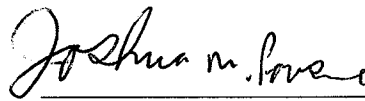
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was merely directed to a process, let alone a non-statutory process. Rather, each of claims 21 and 28 was directed to a speech encoder/decoder, which is itself a broad practical application employed daily by people worldwide to communicate. Accordingly, independent claims 21 and 28 were not directed merely to a process, let alone a non-statutory process.

Nevertheless, Applicants have amended the claims in accordance with the Examiner's suggestion. At least in view of the herein-contained amendments and the above remarks, claims 21-30 are directed to statutory subject matter, and the rejection of these claims under 35 U.S.C. §101 should be withdrawn.

If there should be any questions concerning this application, the Examiner is requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,  
Kazutoshi YASUNAGA et al.

 **Joshua M. Povsner**  
Reg. #42,086  
Bruce H. Bernstein  
Reg. No. 29,027

June 5, 2007  
GREENBLUM & BERNSTEIN, P.L.C.  
1950 Roland Clarke Place  
Reston, VA 20191  
(703) 716-1191